DOCUMENT RESUME

ED 129 995 CE 007 962

AUTHOR Christiano, Thomas
TITLE Instructions for the Development of Career Preparation Analysis Charts (Careerograms).
INSTITUTION Project CAREER, Randolph, Mass.
SPONS AGENCY Massachusetts State Dept. of Education, Boston. Div. of Occupational Education.
PUB DATE Jan 75
NOTE 13p.; Not available in hard copy due to marginal reproducibility of original document. For related documents, see CE 007 961 and CE 008 668-669

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS Career Education; *Career Planning; Charts; Guides; Manuals; *Material Development; *Occupational Information; Post Secondary Education; Resource Materials; Senior High Schools
IDENTIFIERS Massachusetts; Project CAREER

ABSTRACT

Part of the Project CAREER guidance component, this manual provides detailed, step-by-step instructions for preparing career preparation analysis charts called "careerograms," which are visual devices that synthesize information contained in the "Dictionary of Occupational Titles" (DOT) and the "Occupational Outlook Handbook." Stated advantages of the careerograms are: (1) The individual (counselor, student, etc.) does not have to search different volumes for information on a particular occupation; (2) they are adaptable to local geographic areas; (3) occupations can be deleted or added as needed, and (4) occupations can be clustered on a career ladder of specialty levels. A sample blank chart and excerpted material from the DOT are appended. (TA)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED129995

INSTRUCTIONS FOR THE DEVELOPMENT OF CAREER PREPARATION ANALYSIS CHARTS (CAREEROGRAMS)

Prepared By:

Thomas Christiano
Guidance Counselor
Blue Hills Regional Technical School
Canton, Massachusetts

August, 1974

Project CAREER
Vincent P. Lamo, Director
301 North Main Street
Randolph, Massachusetts 02368

Publication # 8087
Approved by
Alfred C. Holland
State Purchasing Agent

10/29/74 - 300
1/9/75 Rev. - 180

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

BEST COPY AVAILABLE

CE 007 962

FOREWORD

An important aspect of the nature of this Project is the involvement of literally hundreds of "consultants" - educators, business and industrial workers, and community representatives. Participation is sought from all areas of experience and expertise as the attempt is made to develop truly realistic and accurate information about the world of work. This document represents the creative and very useful efforts of one contributor, Mr. Thomas Christiano.

Project CAREER makes available this and other resource documents in an over-all, cooperative drive to link learning and working. "Careerograms" are seen as one example of how schools can acquaint students with occupations and careers in an easily accessible, comprehensive approach. This very explicit set of instructions can be of significant assistance in the understanding and preparation of career analysis charts. Other related documents available from the Project include a Guidance Manual on The Dictionary of Occupational Titles: "A Basic Tool for Counselors and Teachers" and a compilation of careerograms for the 122 occupations under investigation by Project CAREER.

The Project expresses its appreciation to Mr. Christiano for the development of this highly informative and useful material.

Vincent P. Lamo
Director

I N T R O D U C T I O N

The Career Preparation Analysis Chart or "Careerogram", as these have been named, is a visual device which synthesizes the information contained in the many volumes of the Dictionary of Occupational Titles, as well as the Occupational Outlook Handbook. It is designed for use by counselors of high school age or older.

Information on a specific occupation is abstracted from the Dictionary of Occupational Titles and the Occupational Outlook Handbook and presented in the graphic format of a chart. The counselor and/or counselee can gain information about three basic questions: "What is the job?", "What does this job demand of me?" and, "What can I expect of the job?" The advantage of this format is in its speed of delivery; the individual does not have to search through many volumes to gain the information, while at the same time, the Dictionary is referenced in the event that further or more detailed information is required. Other advantages include the adaptability of the charts to local geographic areas, the ability to delete or add occupations as needed, and, most important, the ability to cluster the occupations on a career ladder of specialty levels. The counselee is thus able to see and choose from the many occupations of a given career cluster from the entry level positions to the more complex professional level positions.

Careerograms are meant to be an aid and additional supplement to the Dictionary of Occupational Titles, published by the U.S. Department of Labor; Bureau of Labor Statistics. These are not meant to supplant the DOT, but rather to provide another easy reference source for the counselor and his clients in fully utilizing the DOT. Because these charts are briefs from the DOT, it is recommended that where additional information is helpful or information needs to be clarified, the user of these charts be referred back to the source, either the DOT or the Occupational Outlook Handbook.

Those who must prepare these charts for their particular locality or for occupations which have not been prepared already will come to appreciate the great amount of information on all the various occupations contained in both the DOT and the OOH. Although these instructions appear lengthy and complex, once familiar with the content, the user should be able to prepare a careerogram, typically, in approximately twenty minutes.

Supplies Needed

1. Dictionary of Occupational Titles

   Volume I - Definitions
   Volume Ii - Occupational Classification
   Supplement to the Dictionary #1 (arranged numerically by DOT numbers)
   Supplement to the Dictionary #2 (although this supplement contains exactly the same information as Supplement #1, its arrangement is by "Worker Trait Group" and page number of Volume II. Therefore, its use is optional)

2. Occupational Outlook Handbook (for the current period - this volume should be updated with each edition)

3. Career Preparation Analysis Charts - blank forms

   The following procedure should be the most efficient in preparing these forms, but a variation from this procedural format is acceptable in keeping with the preparer's style as long as all information remains accurate. Some parts of this form (so noted) allow for local variations from the information provided by the Department of Labor.

Step

1. Job title - this should be the job as it is known in the industry in which the occupation is found. Avoid nicknames or local synonyms not found in the dictionary. These may be placed in the "Other Titles" (3) section. Also avoid generic distinction of a particular sex or gender (e.g. stock boy to stock person) as this can cause confusion in the definition by making the title refer to more than one job classification. If there is any confusion regarding a specific job title, the title should be researched in Volume I before proceeding any further. DOT titles in Volume I are arranged alphabetically. When the accurate job title is achieved, go to Volume I for that job title and place the title in the proper space.

2. DOT No. - this is a six digit code number following the job title in Volume I. It is composed of two sets of three digits with a decimal mark separating them. Each number in the series breaks a job down into a specific classification and job relatedness factor (see 4). Enter this code number in this space.

3. Other titles - this space is reserved for variations in a specific job title, either a nickname or a local title preference. Such titles appear in bold-face type after the DOT number in Volume I of the Dictionary. Some occupations may also be divided into specialty areas. Where this occurs the notation "may be designated according to specialty area" and should be entered in this space. Enter other job titles or previous notation in this space. If none, leave this space blank.

4. Relation to - the last three digits of the DOT code number separate an occupation according to its significant relation to data, people, things. These digits should be entered into the spaces following data, people, things. The fourth digit should be entered after data, the fifth digit after people, and the sixth digit after things. Following this digit, in each space should be entered the word or words defining the relationship as found in Appendix A, the attached sample Careerogram.

5. DOT location - these are the pages in which specific job information may be found in the DOT. These are entered to assist those who use these forms to find more information or clarify information on a specific job. Enter, following Volume I, the specific page number where the job title and definition may be found. To find the page number for Volume II and Supplement I, open Supplement I to the specific DOT code number (all entries are arranged according to DOT code). In the second column the "Worker Trait" group page number is the page number for Volume II of the Dictionary. Enter this page number after Volume II and bottom page number after Supplement I. To find Supplement 2 page number, open Supplement 2 to the W.T. group page number (Volume II). (This supplement is arranged according to W.T. group page numbers.) This page number is in the upper right hand corner of each page in Supplement 2. Enter this page number after Supplement 2 on the form.

6. Definition - in addition to a job title and DOT number, Volume I defines each occupation. It is usually broken down into a short, descriptive, general paragraph concerning the job followed by specific skills or tools needed to fulfill this job. Usually the short descriptive paragraph is sufficient to define the job. If not, summarize the definition and enter it into this space.

7. Physical Demands - this information is found in either Supplement 1 or Supplement 2 - read across from the specific job title and enter a check in the spaces beside the numbered category as found in the supplement with the exception that (1) strength is expressed in terms of a letter designation. Enter this letter in this space and check off the remaining categories.

8. Conditions - this expresses a specific working condition of a job. This may be found in either Supplement 1 or Supplement 2 following Physical Demands. Column 1 is expressed in terms of a letter designation I - Inside O-Outside B-Both. Check off the appropriate category. Check off the remaining categories similar to Physical Demands.

9. Aptitudes - these are found in Volume II on the Worker Trait group page in the section marked "Qualifications Profile" on the line designated "Apt". Those aptitudes which appear in boldface type are considered to be occupationally significant for the specific group and are expressed as a capital letter for each aptitude (see Appendix B). Beside each aptitude check off the corresponding aptitude which appears in boldface type in Volume 2.

10. Interests - this information is also found on the "Worker Trait Group" page under the "Qualifications Profile." This information is found beside the word "Interest" and is expressed as a series of numbers. These numbers correspond to the numbers under the column "Interests" on the form. For each number expressed in the DOT check off the corresponding number on the careerogram.

11. Temperament - this information is also found on the "Worker Trait Group" page under the "Qualifications Profile". This information is found beside the word "Temperament" and is expressed as a series of numbers and/or letters. These numbers and letters correspond to the numbers and letters in the column marked "Temperament" on the form. For each number and/or letter expressed in the DOT, check off the corresponding number and/or letter on the careerogram.

12. Total Educ/Trng Requirements - this also may be found on the "Worker Trait Group" page in Volume II in the paragraph entitled "Training and Method of Entry." With the exception of on-the-job training and apprentice training, a check mark beside an educational level presupposes education through the lower levels, therefore these levels need not be checked. OJT and

Apprentice training may be checked along with an educational level. The only exception to this might be when two educational levels might be appropriate to meet a job requirement (e.g. four-year college grad and graduate school). Having determined from the Dictionary the proper educational level place a check beside this level and also beside job training and/or apprentice training if this is necessary.

13. Special requirements - this information, designed to give the interested job seeker more clues to relate his personality to the job, is also found in the "Worker Trait Group" page of Volume II in the two paragraphs entitled "Worker Requirements" and "Clues for Relating Applicants and Requirements". The important requirements mentioned here and not mentioned in some other place, notable aptitude, interests, or personality, should be synopsized and entered into this space.

14. High school course of study - this divides educational training into eight occupational areas, seven from architectural to structural and an eighth, specific occupational education, included to enable the preparer to enter a high school course of study not applicable to the other seven. This information may be derived from the "Worker Trait Groups" pages of Volume II in the section titled "Training and Method of Entry" or from the Occupational Outlook Handbook if the job is defined therein. If these two sources do not provide the information, it is then the preparer, using his knowledge of occupations, who must decide what course of study is appropriate. The course of study decided upon must be so checked in the appropriate box.

15. Suggested Career Electives - these are essentially high school courses which a student may elect, better preparing that student for a specific occupation or group of occupations. This information may also be taken from the "Training and Methods of Entry" section found in the "Worker Trait Group" pages of Volume II and also from the Occupational Outlook Handbook. Again, where this information is not readily available, it is the preparer's knowledge of occupations which will enable him to complete this section.

16. Entry level jobs - this information is also contained in the "Training and Methods of Entry" section in the "Worker Trait Group" pages of Volume II. Volume I, giving the definition of a job, will also indicate an entry level position if appropriate. If this particular job being analyzed is an entry level job, it should be noted in this space.

17. Related jobs - this information is found in Volume II in the "Worker Trait Group" pages which list the occupations which are essentially similar and share the same worker traits. To synthesize these sometimes long lists of occupations, it is best to extract those occupations which are known to be related and have the same first three digit code.

18. Employment Outlook; Hours; Average Earnings; Union Association Affiliation - this information can all be gained from the Occupational Outlook Handbook if the specific job under consideration is defined therein. If it is not, it is advisable that a notation such as the following, UK - unknown or NA - not available, be entered in these spaces. Since students sometimes make career decisions on these criteria, it is essential that these be as accurate as possible.

19. Course location - this is a local option providing space to enter the school or schools which provide the training necessary to enter this job field. This should be entered by the preparer based on his/her knowledge of the occupation and the training facilities available in the area.

APPENDIX A

Careerogram

CAREER PREPARATION ANALYSIS CHART

1. JOB TITLE:

3. OTHER TITLES:

6. DEFINITION:

2. D.O.T. NO.

16. ENTRY LEVEL JOBS:

17. RELATED JOBS:

18. EMPLOYMENT OUTLOOK:

HOURS:

AVERAGE EARNINGS:

UNION ASSOCIATION AFFILIATION:

12. TOTAL EDUC/TRNG REQUIREMENTS:

H. S. Grade Completed:	10	
	11	
	12	
	PG	
On-the-Job Training		
Apprentice Training		
Technical Institute		
Business College		
Junior or Community College		
4-year College Grad.		
Graduate School		

14. HIGH SCHOOL COURSE OF STUDY:

Career Development Program:	
Architectual Careers	
Automotive Careers	
Business Careers	
Electro Careers	
Graphic Arts Careers	
Health Careers	
Structural Careers	
Specific Occupational Education	

15. SUGGESTED CAREER ELECTIVES:

19. COURSE LOCATION:

5. D.O.T. LOCATION:

Vol. I	page
Vol. II	"
Sup. I	"
Sup. II	"

13. SPECIAL REQUIREMENTS:

8. CONDITIONS:

1 Inside	
Outside	
Both	
2 Cold temp	
3 Hot temp	
4 Wet, humid	
5 Noise, vibration	
6 Hazards	
7 Fumes	
Odors	
Toxic	
Dust	
Poor Ventilation	

9. APTITUDES:

1 General Learning	
2 Verbal Ability	
3 Numerical Ability	
4 Spatial Ability	
5 Form Perception	
6 Clerical Perception	
7 Motor Coordination	
8 Finger Dexterity	
9 Manual Dexterity	
10 Eye–Hand–Foot Coordination	
11 Color Discrimination	

7. PHYSICAL DEMANDS:

1 Strength	
2 Climbing, balancing	
3 Stooping, kneeling, crawling	
4 Manual dexterity	
5 Talking, hearing	
6 Visual acuity	

10. INTERESTS:

1 Dealing with things & objects	
2 Business contact with people	
3 Routine, system	
4 Social welfare	
5 Prestige, esteem	
6 Communication of ideas	
7 Science & technology	
8 Abstraction, creativity	
9 Machines, procedures	
0 Tangible results	

11. TEMPERAMENT:

1 Varied duties, frequent change	
2 Repeated, set procedures	
3 Matching specified instructions	
4 Directing & planning for others	
5 Working with others	
6 Working alone & apart	
7 Influencing other people's ideas	
8 Risks, unexpected events, emergencies	
9 Making empirical judgments, decisions	
0 Analyzing facts and figures	
X Interpreting personal feelings	
Y Precision, accuracy	

4. RELATION TO:

1 Data:		
2 People:		
3 Things:		

APPENDIX B

Aptitudes

(For ease of reference, the following material is excerpted from Appendix B of the Volume II of the Dictionary of Occupational Titles 1965 ed.)

1. General Learning (G) is roughly equivalent to Intelligence of General Learning Ability and is synonymous with the ability to reason and make judgments (closely related to doing well in school).

2. Verbal Ability (V) - ability to understand meanings of words and ideas associated with them, and to use them effectively.

3. Numerical Ability (N) - ability to perform arithmetic operations quickly and accurately.

4. Spatial Ability (S) - ability to comprehend forms in space and understand relationships of plane and solid objects. Frequently described as the ability to "visualize" objects of two or three dimensions, or to think visually of geometric forms.

5. Form Perception (P) - ability to perceive pertinent detail in objects or in pictorial or graphic material; to make visual comparisons and discriminations and see slight differences in shapes and shadings of figures and widths and lengths of lines.

6. Clerical Perception (Q) - ability to perceive pertinent detail in verbal or tabular material. To observe differences in copy, to proofread words and numbers, and to avoid perceptual errors in arithmetic computation.

7. Motor Coordination (K) - ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed.

8. Finger Dexterity (F) - ability to move the fingers and manipulate small objects with the fingers rapidly or accurately.

9. Manual Dexterity (M) - ability to move the hands easily and skillfully.

10. Eye-hand-foot Coordination (E) - ability to move the hand and foot coordinately with each other in accordance with visual stimuli.

11. Color Discrimination (C) - ability to perceive or recognize similarities or differences in colors, or in shades or other values of the same color; to identify a particular color, or to recognize harmonious or contrasting color combinations, or to match colors accurately.

Certain aptitudes appear in boldface type on the qualifications profile for the "Worker Trait Groups". These aptitudes are considered to be occupationally significant for the specific group, i.e., essential for average successful job performance. All boldface aptitudes are not necessarily required of a worker for each individual job within a worker trait group, but some combination of these is essential in every case.